



## **State Revolving Fund Loan Programs**

### **Drinking Water, Wastewater, Nonpoint Source**

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#### **ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT**

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##### **TOWN OF BARGERSVILLE**

##### **WATER TREATMENT PLANT IMPROVEMENTS, NEW WELLFIELD AND WATER MAINS**

##### **PHASE 2**

##### **STATE REVOLVING FUND PROJECT # DW 12 01 41 02**

**DATE: October 11, 2011**

**TARGET PROJECT APPROVAL DATE: November 10, 2011**

#### **I. INTRODUCTION**

The above entity has applied to the Drinking Water State Revolving Fund (DWSRF) Loan Program for a loan to finance all or part of the drinking water project described in the accompanying Environmental Assessment (EA). As part of facilities planning requirements, an environmental review has been completed which addresses the project's impacts on the natural and human environment. This review is summarized in the attached EA, which can also be viewed at <http://www.in.gov/ifa/srf/>.

#### **II. PRELIMINARY FINDING OF NO SIGNIFICANT IMPACT (FNSI)**

The DWSRF has evaluated all pertinent environmental information regarding the proposed project and determined that an Environmental Impact Statement is not necessary. Subject to responses received during the 30-day public comment period, and pursuant to Indiana Code 4-4-11, it is our preliminary finding that the construction and operation of the proposed facilities will result in no significant adverse environmental impact. In the absence of significant comments, the attached EA shall serve as the final environmental document.

#### **III. COMMENTS**

All interested parties may comment upon the EA/FNSI. Comments must be received at the address below by the approval date above. Significant comments may prompt a reevaluation of the preliminary FNSI; if appropriate, a new FNSI will be issued for another 30-day public comment period. A final decision to proceed, or not to proceed, with the proposed project shall be effected by finalizing, or not finalizing, the FNSI as appropriate. Comments regarding this document should be sent within 30 days to:

**Max Henschen**  
**Senior Environmental Manager**  
**State Revolving Fund -- IGCN 1275**  
**100 N. Senate Ave.**  
**Indianapolis, IN 46204**  
**317-232-8623; mhensche at ifa.in.gov**

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## ENVIRONMENTAL ASSESSMENT

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### I. PROJECT IDENTIFICATION

|                            |  |
|----------------------------|--|
| Project Name and Address:  | <b>Water Treatment Plant and System<br/>Improvements, Phase 2</b><br>Town of Bargersville<br>24 North Main Street<br>P.O. Box 420<br>Bargersville, Indiana 46106 |
| SRF Project Number:        | DW 12 01 41 02   |
| Authorized Representative: | Rowana Umbarger, Town Council President  |

### II. PROJECT LOCATION

The project area is in Johnson and Morgan counties. The town proposes to construct seven projects as shown on figures 1a and 1b. The project locations are as follows:

- 1) The proposed groundwater wells and raw water transmission line will be constructed in the USGS Mooresville East 7.5' quadrangle, Township 13 North, Range 2 East, Section 13, Madison Township in Morgan County.
- 2) The finished water transmission line begins in Morgan County, Mooresville East quadrangle, T13N, R2E, Section 13, Madison Township, and continues into Harrison Township until it crosses the Morgan/Johnson county line. From there, the line is in Johnson Township, Bargersville quadrangle, T13N, R3E, sections 17, 18, 20, 21, 27, 28, 34 and 35 in White River Township in Johnson County.
- 3) The proposed booster station will be constructed in the Bargersville quadrangle, T13 N, R3E, Section 28, in White River Township in Johnson County.
- 4) The Whiteland Road water main is located in the Bargersville quadrangle, T13N, R3E, Section 21 in White River Township in Johnson County.
- 5) The Saddle Club Road water main is located in the Bargersville quadrangle, T13N, R3E, sections 26 and 27 in White River Township in Johnson County.
- 6) The East Street water main is located in the Bargersville quadrangle, T13N, R3E, Section 35, in White River Township in Johnson County.

- 7) Additional clearwell and fluidized bed reactor (FBR) at the new water treatment plant (WTP) that is currently under construction. The new WTP is located in the Mooresville East quadrangle, T13N, R2E, section 13, Madison Township in Morgan County.

### III. PROJECT NEED AND PURPOSE

The existing WTP serving the Bargersville drinking water system currently exceeds over 90 percent of its design capacity and has received an early warning letter from the Indiana Department of Environmental Management (IDEM). The population in the 20-year service area is growing steadily, and peak demands have already surpassed the existing water treatment plant's design capacity. In August 2010, the WTP operated 24 hours per day for several consecutive days to meet the demand. Additionally, there is limited availability around the existing WTP and well fields to allow for expansion. Therefore, to meet the existing peak water demands, future projected water demands and augment the existing WTP during peak water demand periods, the town will construct a new 6.0 million gallons per day (MGD) WTP as Phase 1 of its drinking water project, which was described in the May 23, 2011 Environmental Assessment/Finding of No Significant Impact distributed by the State Revolving Fund (SRF) Loan Program. To supply the new WTP with raw water and to supply the system with finished water, the town will implement Phase II, as described in this document.

### IV. PROJECT DESCRIPTION

**Groundwater Wells and Raw Water Transmission line:** The town will install three new groundwater wells and approximately 3,700 feet of 24-inch diameter raw water line from the wells to the WTP. The three wells will consist of one 1,500 gallons per minute (GPM) and two 2,500 GPM wells that will produce 5.76 MGD.

**Finished Water Transmission Main:** The town will install approximately 20,850 feet of 24-inch ductile iron transmission main from the new WTP to the existing Kinder Elevated Storage Tank. The purpose of the project is to transport finished drinking water from the new WTP to the rest of the Bargersville distribution system.

**Booster Station Construction and Portable Generator** (see Figure 2): The proposed 2,000 gallons per minute (GPM) booster station will be constructed next to the existing Kinder elevated storage tank. The booster station is necessary to pump drinking water into the Kinder elevated storage tank as well as add additional pressure to transport the finished water from the Kinder tank to Bargersville. A 300 kilowatt (KW) portable generator will be purchased to operate the booster station and a groundwater well at an existing well field during electrical power outages.

**SR 144, Whiteland Road and East Street Water Mains:** These projects will install approximately 4,300 feet of 12-inch ductile iron (Whiteland Road and East Street) and 8,200 feet of 16-inch (SR 144) ductile iron water mains that are necessary to transport the finished drinking water from the Kinder Elevated Tank along SR 144 to other areas of the Bargersville service area, as well as providing adequate pressure, looping and water volume to existing areas within the Bargersville system. The Bargersville distribution system consists of two pressure zones that will be tied together with the installation of these water mains, allowing filling of the Bargersville elevated tank in a 4-5 hour period without accounting for the flow demand in the distribution system.

**Saddle Club Water Main:** The project consists of installing approximately 4000 feet of 12-inch water main from Whiteland Road to a school property located along Saddle Club Road. This project is necessary to provide drinking water to the proposed school. The project is only being environmentally vetted at this time. The project will not be constructed at this time unless there is a remaining loan balance after all other projects covered by this loan are substantially completed. The construction of this project will require SRF Loan Program approval prior to using remaining loan funds to construct the project.

**Additional Clarifier and Fluidized Bed Reactor (FBR):** This project consists of the construction of an additional clarifier and FBR at the new WTP site. The additional components are necessary to allow for the new WTP to properly treat up to 6.0 million gallons per day (MGD) of drinking water in order to meet the maximum daily demand of the service area and comply with a compliance plan to abate an Early Warning Notice from IDEM. These components were included in the overall design of the new WTP, but the construction costs were not included in SRF Loan # DW 11044101 because of limited loan funding availability.

## V. ESTIMATED PROJECT COSTS, AFFORDABILITY AND FUNDING

### A. Selected Plan Estimated Cost Summary

| <u>Construction Projects</u>                      | <u>Costs</u>        |
|---|---------------------|
| Ground Water Wells                                | \$ 553,190          |
| Raw Water Transmission Main                       | 368,990             |
| Finished Water Transmission Main                  | 3,590,807           |
| Booster Station with Portable Generator           | 510,000             |
| SR 144, Whiteland Road and East Street Water Main | 1,317,802           |
| Additional WTP Clarifier and FBR                  | 851,300             |
| Electrical Service from WTP to Wells              | 250,000             |
| <b>Construction Subtotal</b>                      | <b>\$ 7,442,089</b> |
| Contingencies                                     | 911,301             |
| <b>Total Estimated Construction Cost</b>          | <b>\$ 8,353,390</b> |
| <b>Non-Construction Items**</b>                   | <b>\$ 1,326,610</b> |
| <b>Total Estimated Project Cost</b>               | <b>\$ 9,680,000</b> |

\*\*includes legal, accounting, construction engineering, construction observation, planning and design engineering fees for the proposed projects.

- B. The town will borrow approximately \$ 9,680,000 through a 20-year SRF loan at an interest rate to be determined at loan closing. Monthly user rates and charges may need to be analyzed to determine if adjustments are required for loan repayment.

## VI. DESCRIPTION OF EVALUATED ALTERNATIVES

In addition to the selected alternatives described above, the "No Action" alternative was evaluated for each of the project elements.

**Groundwater Wells, Raw Water Transmission line and Finished Water Transmission Main:** The “No Action” alternative was rejected, since these elements are needed to provide raw water for treatment at the new WTP and to distribute the finished water.

**Booster Station Construction and Portable Generator:** The “No-Action” alternative for the booster station was rejected because without it the system would lack the pressure needed to pump water into the elevated tank and into the distribution system. Without the generator, the need to provide back-up electrical power during power outages would not be met.

**SR144, Whiteland Rd., East St., and Saddleback Rd. mains:** The “No-Action” alternative was rejected because pressure and water quantity needs would not be met.

**Additional clarifier and FBR at the WTP:** The “No-Action” alternative was rejected because the need to meet the design capacity of the new WTP would not be met without these elements.

## **VII. ENVIRONMENTAL IMPACTS OF THE FEASIBLE ALTERNATIVES**

### **A. Direct Impacts of Construction and Operation**

Disturbed and Undisturbed Areas: The raw water transmission main and wells will be constructed on undisturbed farmland, as well as an 800 foot 12-inch diameter storm sewer from the WTP detention basin to a nearby swale. The raw water transmission main will disturb a corridor approximately 2,500- by 50 feet, most of which will be returned to farmland. There also will be a 12 foot wide access road constructed from the WTP to the well site on undisturbed land.

The finished water transmission main will be constructed in easements adjacent to road rights-of-way. The easements are a combination of disturbed and undisturbed land. The easement widths range from 30- to 60 feet in width along the transmission main route.

The booster station will be constructed on disturbed land adjacent to an existing elevated storage tank. This site was previously disturbed during the construction of the elevated tank.

The other water main construction for the SR 144, Whiteland Road, East Street and Saddle Club water main projects will be constructed within previously disturbed street rights-of-way.

Structural Resources (figures 3, 4a-4c): At its nearest point, the SR 144 water main will pass approximately 25 feet from the property line owned by the Bluff Creek Cemetery Association; this point is estimated to be 75 feet from the nearest burial site on the property. Construction of the main will not affect the cemetery property.

Construction and operation of the projects will not alter, demolish or remove historic properties. If any visual or audible impacts to historic sites occur, they will be temporary and will not alter the characteristics that qualify such properties for inclusion in or eligibility for the National Register of Historic Places. The SRF’s finding pursuant to the Section 106 of the National Historic Preservation Act is: “no historic properties affected.”

Plants and Animals: The proposed projects will not affect trees or wooded areas or state or federal-listed endangered species.

Prime Farmland: The wellfield will convert approximately 1 acre, the WTP will convert approximately 3.2 acres of prime farmland. The water mains will not cause a conversion of prime farmland. The proposed water mains and booster station will not cause a conversion of prime farmland.

Wetlands (Figures 5a and 5b): Wetlands are near the proposed wellfield. Care will be taken during the construction of the well field to avoid affecting those wetlands. The raw water transmission line will be installed by directional drilling where it crosses a wetland approximately 1000 feet west of the White River, and the White River crossing will be installed by directional drilling.

100-Year Floodplain: The proposed wells, raw water transmission main and a portion of the finished water transmission main will be installed within a floodway. The town has obtained an IDNR Construction in a Floodway Permit for the wells, raw water transmission main and the finished water transmission main. The other proposed projects will not affect a 100-year floodplain.

Surface Waters (Figures 1 and 2): The 24-inch finished water transmission main will cross the White River, a perennial stream and also on the Outstanding Rivers of Indiana list compiled by the state's Natural Resources Commission. The 24-inch finished water transmission main will cross intermittent streams, including Bluff Creek and Salem Brook. The White river Crossing will be installed by directional drilling, and the intermittent stream crossings will be open-cut. The 16-inch transmission water line will cross Kinder Run Creek and Crooked Creek by directional drilling.

The other projects will not adversely affect waters of high quality listed in 327 IAC 2-1-2(3), Exceptional Use streams listed in 327 IAC 2-1-11(b), or Natural, Scenic and Recreational Rivers and Streams listed in 312 IAC 7-(2), Salmonid Streams listed in 327 IAC 2-1.5-5(a)(3), or waters of Outstanding Rivers list.

Groundwater: It is likely that dewatering will have to be done during construction. The new well facility will harvest groundwater as it flows by the well field and will not have a net impact on the groundwater in the area.

Air Quality: Dust and noise will be temporary impacts of construction activities.

Open Space and Recreational Opportunities: The proposed project's construction will neither create nor destroy open space and recreational opportunities.

The construction and operation of the proposed project will not affect National Natural Landmarks.

## **B. Indirect Impacts**

The town's Preliminary Engineering Report (PER) states: *Bargersville, through the authority of its council, planning commission or other means, will ensure that future development, as well as future collection system or treatment works projects connecting to SRF-funded facilities will not adversely affect wetlands, wooded areas, steep slopes, archaeological/historical/structural resources, or other sensitive environmental resources. Bargersville will require new development and treatment works projects to be constructed within the guidelines of the U.S. Fish and Wildlife Service, IDNR, IDEM, and other environmental review authorities.*

### C. Comments from Environmental Review Authorities

The Natural Resources Conservation Service (NRCS) in Indiana stated in correspondence dated March 28, 2011: *The project ... will cause conversion of prime farmland.*

The Indiana State Historic Preservation Officer stated in correspondence dated September 15, 2011: *Based on our analysis, it has been determined that no historic structures will be altered, demolished, or removed by the proposed project. In regard to archaeology, no archaeological sites listed in or eligible for the National Register of Historic Places have been identified within the proposed project area. We concur that the following sites do not need further archaeological investigation: 12Jo661, 12Jo662, 12Mg434, 12Mg435, and 12Mg436. No further archaeological investigations are necessary in the areas investigated (King, 6/21/11). No archaeological investigations are needed at the proposed booster station site as long as project activities remain within an area which has been previously disturbed by construction activities.*

*We do note that the information for the archaeological sites mentioned above has not yet been entered into SHAARD.*

*Please be aware of the cemetery development plan requirements in Indiana Code (IC) 14-21-1-26.5 (<http://www.in.gov/legislative/ic/code/title14/ar21/ch.1.html>) regarding proposed ground disturbance within 100 feet of cemeteries.*

*If any archaeological artifacts, features, or human remains are uncovered during construction, state law (Indiana Code 14-21-1-27 & 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days.*

The U.S. Fish and Wildlife Service (USFWS) stated in correspondence dated September 6, 2011: *These comments are consistent with the intent of the National Environmental Policy Act of 1969, the Endangered Species Act of 1973, and the U.S. Fish and Wildlife Service's Mitigation Policy.*

*Directional drilling would be used for transmission line crossings of the White River, an emergent wetland west of the river, Crooked Creek and Kinder Creek. Excavated crossings would be constructed at the headwaters of Bluff Creek and Salem Brook (2 crossings each).*

*The project has been designed to avoid or considerably reduce impacts at the most significant wildlife habitat areas of the White River Crossing, floodplain wetlands and two stream crossings. All excavated stream crossings are described as ephemeral streams, however the main channel of Salem Brook and both tributaries of Bluff Creek are depicted as intermittent streams on the USGS topographic maps. Potential remaining habitat impacts consist of riparian forest impacts at the Bluff Creek and White River crossings, and wetland impacts in the floodplain west of the White River, where the land cover is a mixture of farm land, farmed wetlands and vegetated wetlands. A wetland survey and possibly a wetland delineation may be necessary in that area if those studies have not already been conducted.*

*We recommend the following mitigation measures to further minimize impacts to fish and wildlife habitat:*

- 1. Extend the directional drilling at the White River far enough east of the river to avoid or minimize riparian tree removal.*
- 2. Avoid or minimize riparian tree removal at the Bluff Creek crossing.*

3. Minor wetland impacts, if any, may require compensatory mitigation.

*Endangered Species*

*The proposed project is within the range of the federally endangered Indiana bat (Myotis sodalis). We concur that the proposed project is not likely to adversely affect this listed species.*

*This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. If project plans are changed significantly, please contact our office for further consultation.*

The Indiana Department of Natural Resources Environmental Unit stated in correspondence dated August 2, 2011: *The Indiana Department of Natural Resources has reviewed the above referenced project per your request. Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969.*

**Regulatory Assessment:** *This proposal will require the formal approval of our agency for construction in a floodway pursuant to the Flood Control Act (IC 14-28-1), unless it qualifies for utility exemption under Administrative Rule 312 IAC 10-5-4 (see enclosure). Please include a copy of this letter with the permit application (if required). Any other proposal to construct, excavate, or fill in or on the floodway of a stream or other flowing waterbody which has a drainage area greater than one square mile will also require the formal approval of our agency. Portions of this project were previously approved under Construction in a Floodway permit FW-25609 on March 2, 2010.*

**National Heritage Database:** *The Natural Heritage Program's data have been checked. The following mussel species have been recorded within the project site:*

- a) Clubshell (Pleurobema clava)*
- b) Pocketbook (Lampsilis ovata)*
- c) Pyramid pigtoe (Plerobema rubrum)*
- d) Northern riffleshell (Epioblasma torulosa rangiana)*
- e) Round hickorynut (Obovaria subrotunda)*
- f) Rabbitsfoot (Quadrula cylindrica cylindrica)*
- g) Black sandshell (Ligumia recta)*
- h) Eastern fanshell pearlymussel (Cyprogenia stegaria)*

**Fish & Wildlife Comments:** *None of the state listed mussels are still found live in the West Fork White River; however, some very common mussels are still found live. We do not foresee any impacts to the listed mussel species resulting from the project.*



*We recommend minimizing the removal of trees and brush by locating the line and the disturbed area/construction limits outside any areas of forested or woody vegetation. Where the private easements adjacent to a previously disturbed/cleared road right-of-way are wooded, the line should be placed as close to the previously cleared road right-of-way as possible to minimize forest fragmentation impacts.*

*Impacts to non-wetland forest under one (1) acre should be mitigated at a 1:1 ratio, while impacts to non-wetland forest over one (1) acre should be mitigated at a minimum 2:1 ratio. Impacts to wetlands should be mitigated at the appropriate ratio as well. For more information, see <http://www.in.gov/legislative/register/20061213-IR-312060562NRA.xml.pdf>.*

*We recommend that all creek or stream crossings be done using a trenchless method. The bore length should extend landward of the forested riparian corridor on the banks of the creek/river to avoid and minimize impacts to forested riparian habitat. If the open-trench method is necessary and the only feasible option at any of the planned stream crossings due to the site conditions, then the following measures should be implemented:*

- 1) Any open-trench stream crossing should be timed to coincide with the low-water time of year (typically mid- to late-summer).*
- 2) Restore disturbed streambanks using bioengineering bank stabilization methods and revegetate disturbed banks with native trees, shrubs and herbaceous plants. Stream bank slopes after project completion should be restored to stable-slope steepness (not steeper than 2:1).*
- 3) The cleared width through any forested area should be the minimum needed to install the line and no wider than 20 feet wide through the forested area to allow the canopy to close over the line.*
- 4) Use graded stone or riprap to protect the section of trench below the normal water level from scour or erosion (any stone or riprap fill in the streambed should remain at the existing streambed level to avoid creating a fish passage obstruction).*

*Fish, wildlife, and botanical resource losses as a result of this project can be minimized through implementation of the following measures.*

- 1) Revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue), legumes, and native shrub and hardwood tree species as soon as possible upon completion.*
- 2) Minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush.*
- 3) Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife.*

- 4) *Do not cut any trees suitable for Indiana bat roosting (greater than 3 inches dbh, living or dead, with loose hanging bark) from April 1 through September 30.*
- 5) *Plant native hardwood trees along the top of the bank and right-of-way to replace the vegetation destroyed during construction.*
- 6) *Post "Do Not Mow or Spray" signs along the right-of-way.*
- 7) *Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.*
- 8) *Seed and protect disturbed stream banks and slopes that are 3:1 or steeper with bio- or photo-degradable heavy-duty erosion control blankets (follow manufacturer's recommendation for installation); seed and apply mulch on all other disturbed areas.*

## **VIII. MITIGATION MEASURES**

The town's PER states the following mitigation measures:

*No long term negative erosion siltation, air quality or odor impacts are expected from the projects. Short term erosion and siltation impacts will be controlled and monitored by the contractor during the construction of the proposed projects. Mitigation measures will be implemented during dewatering operations to control the amount of sediment discharged to a surface water. Two of the measures include attaching a dewatering bad to the end of the discharge to filter out sediment and discharging through a no. 2 stone filter bed.*

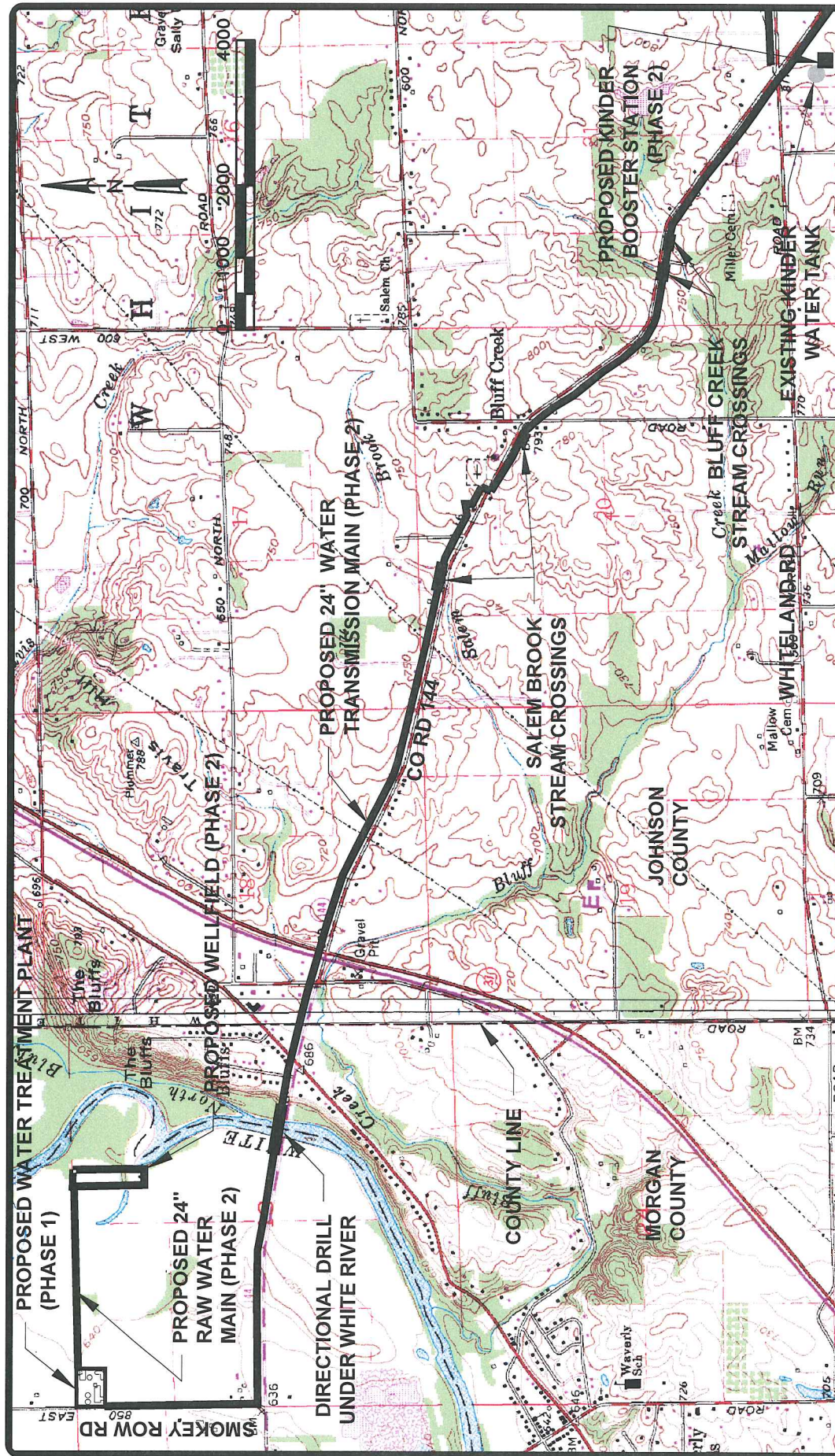
*Erosion control measures will be implemented during construction to ensure that nearby wetlands are not affected by runoff from the construction site or from dewatering operations. The town has obtained an erosion control permit has been obtained for the well field and raw water transmission main construction as well as Rule 5 approval letters from both Johnson and Morgan counties for the finished water transmission line construction.*

*Mitigation measures cited in comment letters from the Indiana Department of Natural Resources and the U.S. Fish and Wildlife Service will be implemented.*

## **IX. PUBLIC PARTICIPATION**

A properly noticed public hearing was held on June 9, 2011 at 6:00 pm at 24 N. Main Street, Bargersville to discuss the drinking water projects. The town did not receive written comments during the 5-day public comment period following the public hearing.





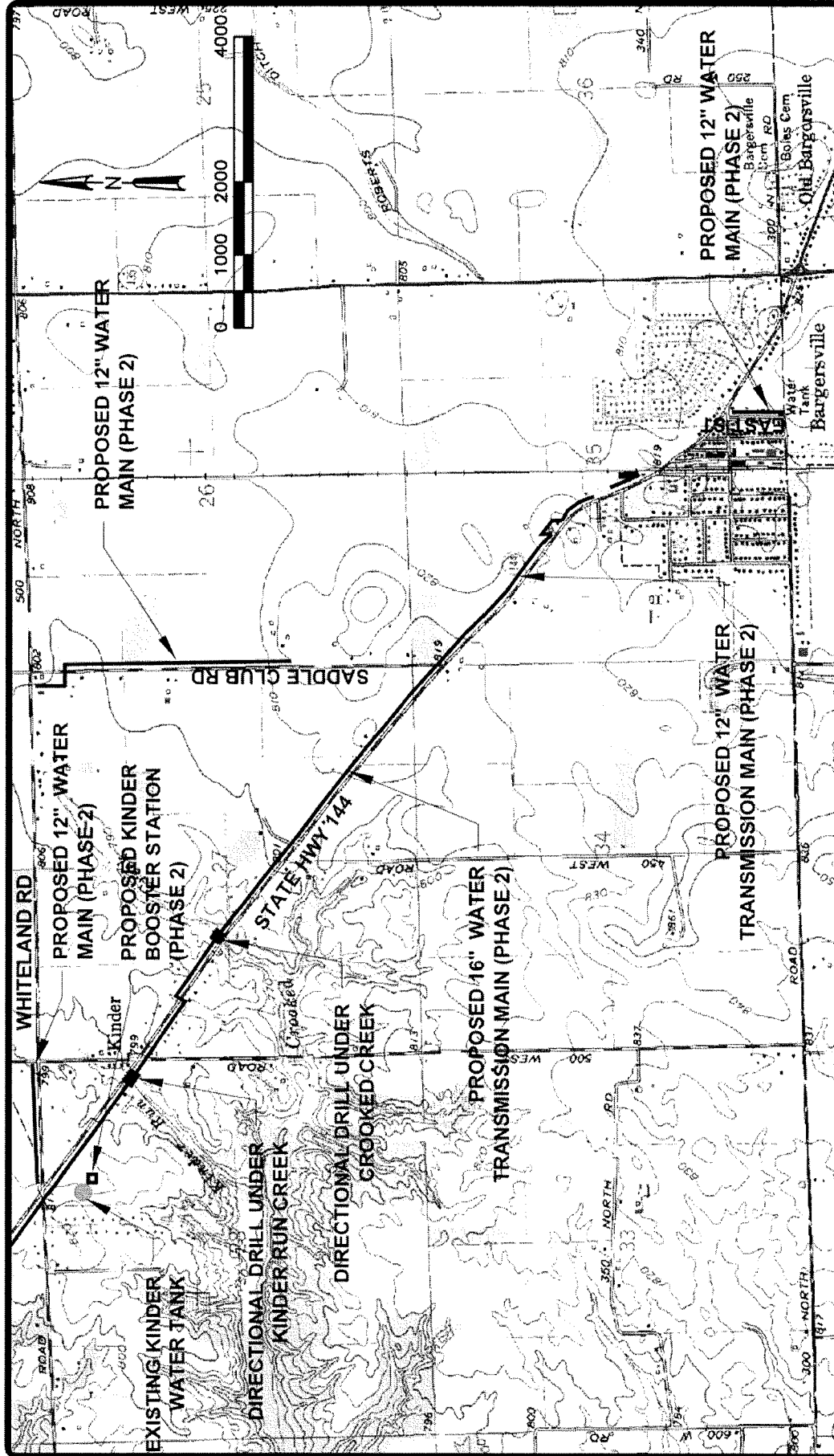
5.04-1  
4005-004

STREAM CROSSINGS (REVISED 8-18-11)  
PHASE 2 - SYSTEM IMPROVEMENTS

BARGERSVILLE WATER TREATMENT PLANT AND SYSTEM IMPROVEMENTS  
TOWN OF BARGERSVILLE  
MORGAN AND JOHNSON COUNTY, IN

Figure 1a: Proposed Project

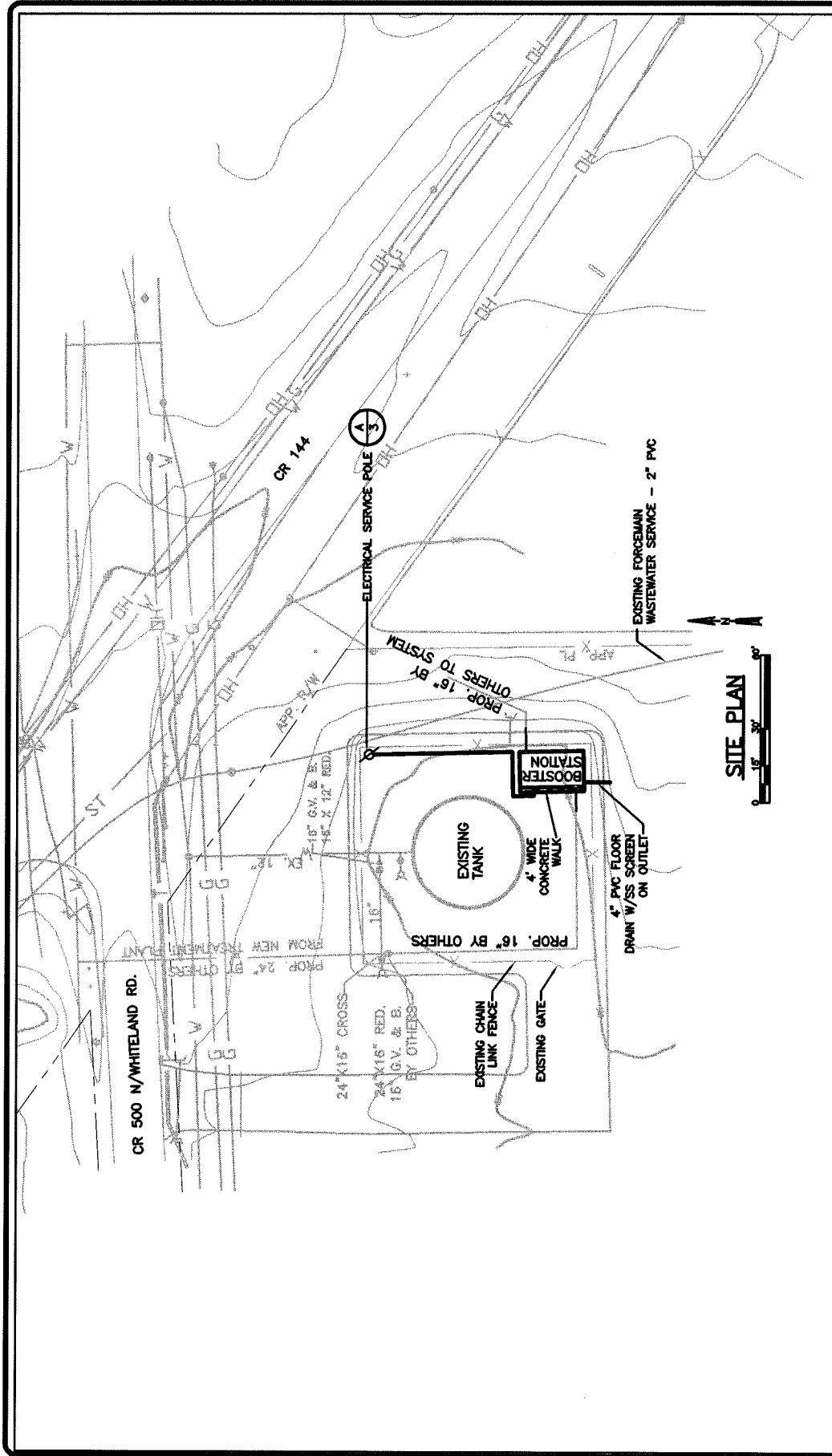




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**STREAM CROSSINGS  
PHASE 2 - SYSTEM IMPROVEMENTS**

**BARGERSVILLE WATER TREATMENT PLANT AND SYSTEM IMPROVEMENTS  
TOWN OF BARGERSVILLE  
JOHNSON COUNTY, IN**  
**Figure 1b: Proposed Project**



**SITE LAYOUT - KINDER BOOSTER STATION - REVISED 7/21/11**  
**PHASE 2 - SYSTEM IMPROVEMENTS**

**BARGERSVILLE WATER TREATMENT PLANT AND SYSTEM IMPROVEMENTS**  
**TOWN OF BARGERSVILLE**  
**JOHNSON COUNTY, IN**



**6.05-3**  
4005.004

# Madison Township (00001-031)

Morgan County

Figure 5.02-1  
Revised 7-21-11

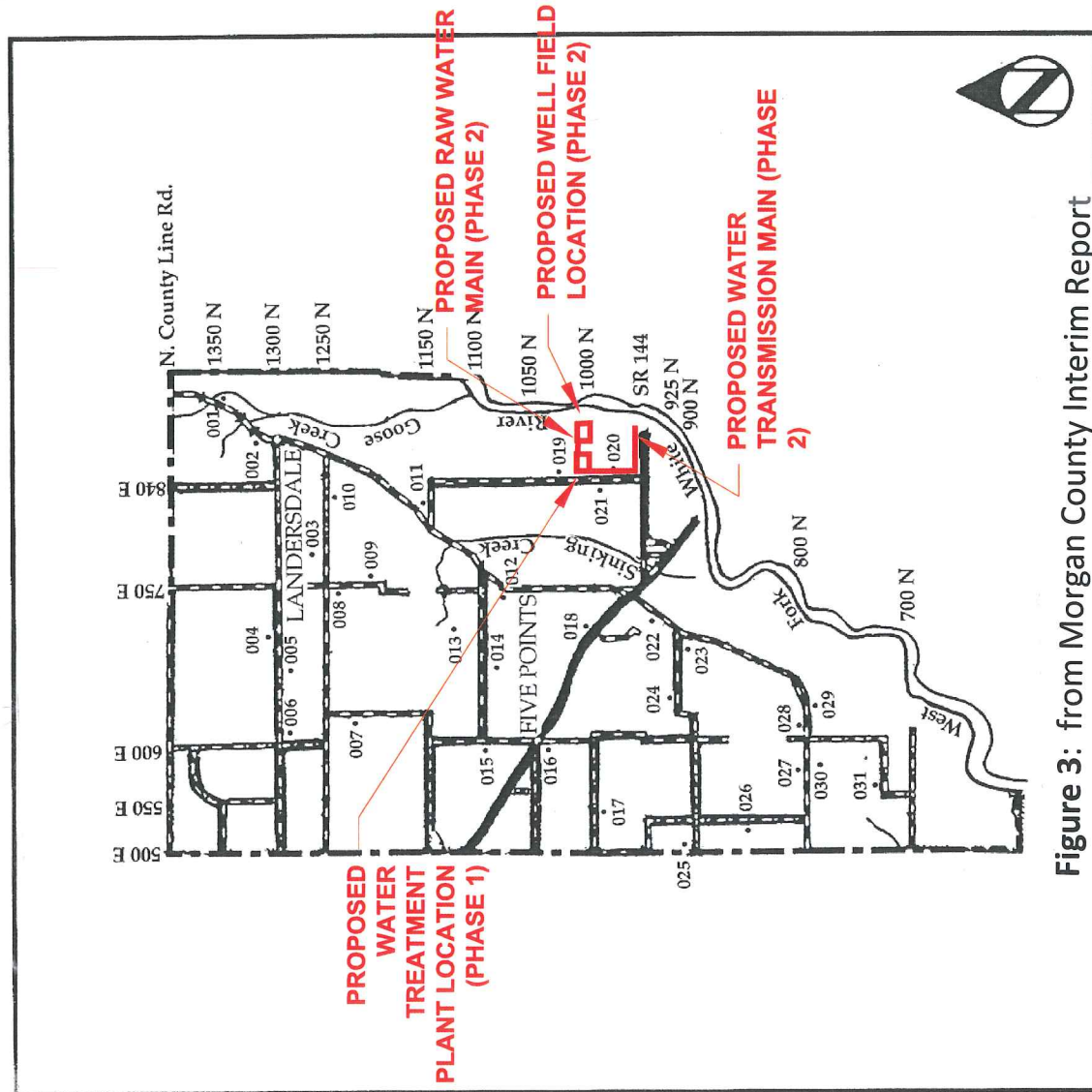


Figure 3: from Morgan County Interim Report  
Indiana Historic Sites and Structures Inventory

Madison Township is located in the northeast corner of Morgan County. The topography is primarily level farmland with the White River forming the township's southeastern boundary.

The township's first permanent resident was Abner Cox who came to the area in 1821 and settled with his family in the township's northern section. Other settlers soon followed including brothers Thomas, George H. and Joseph Beeler, Joseph Henshaw and the Landers family all of whom came to the area during the early 1820s.

Madison Township has no remaining towns. Landersdale, located in the township's northeast corner was located along a major road but little is written about it. The William Landers House (00002), an outstanding example of the Gothic Revival style, is one of the few buildings remaining in Landersdale. Five Points, also located along a major thoroughfare, has little history left.

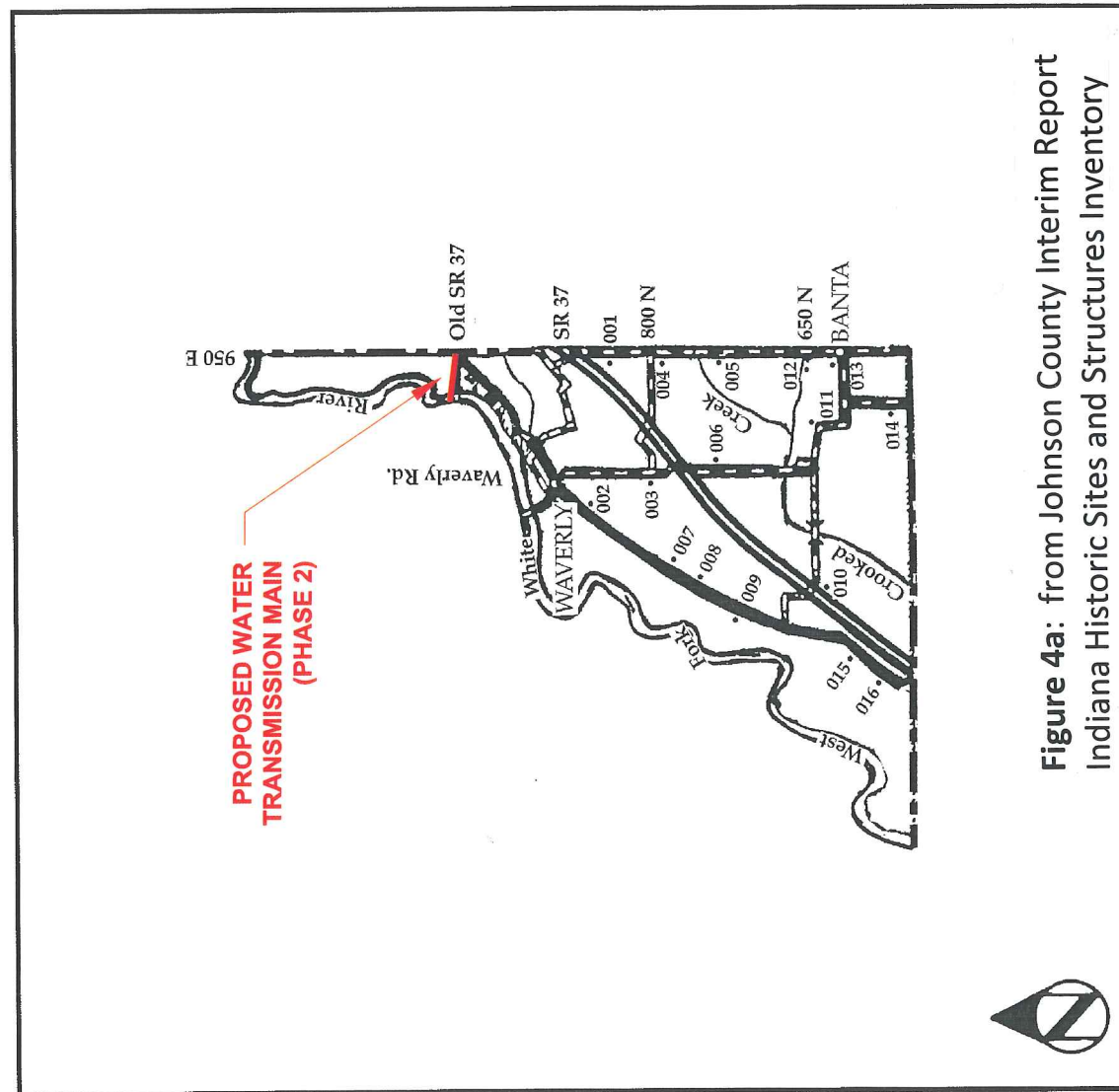
Few examples of pre-Civil War architecture remain in the township. The Thomas Watson House (00022) was built in 1819 and is one of the county's earliest extant homes. The house on Centenary Road (00023) which dates to the 1840s, is a good example of the central-passage house form.

Much of the township's architecture dates to the late nineteenth century. A number of farmsteads attest to the modest prosperity of the area's farmers. Farms on 1250 N (00008), 850 E (00020), North Watson Road (00025) and Centenary Road (00030) are typical of the county's many late nineteenth century farm complexes.

Several religious congregations were organized in Madison Township. The Mount Olive Methodist Episcopal Church (00010) was established in 1878. The Centenary Methodist Episcopal Church (00029) was organized in 1866 and was named by Mrs. Louisa Slaughter in honor of the 1866 Methodist Church

# Harrison Township (30001-016)

Figure 5.02-2  
Revised 7-21-11



**Figure 4a: from Johnson County Interim Report**  
Indiana Historic Sites and Structures Inventory

Harrison Township located in northeastern Morgan County, is the smallest township in the county. The White River forms the township's western boundary and Crooked and Banta Creeks flow through the area. The topography is primarily level with rich bottomland.

The area experienced some of the county's earliest activity when the Whetzel family settled along the White River in 1818. Jacob Whetzel was granted permission by the Delaware chief Anderson to cut a trace from the eastern part of the state through an area called "The Bluffs" along the White River southwest to Vincennes. This early settlement route was considered the first road in central Indiana and was known as Whetzel's Trace.

Whetzel claimed land near "The Bluffs," an area that already had a long history before pioneer settlement. Before the War of 1812, French traders from Vincennes established a temporary post there called Port Royal to trade with the Delaware Indians. A village was formally platted in 1821 and at one time it was considered as a potential site for the state capital. The town did not last long and by 1840 it had begun to decline. Today nothing remains of this early settlement.

Harrison Township's only town is Waverly, laid out in 1837 during construction of the Indiana Central Canal.

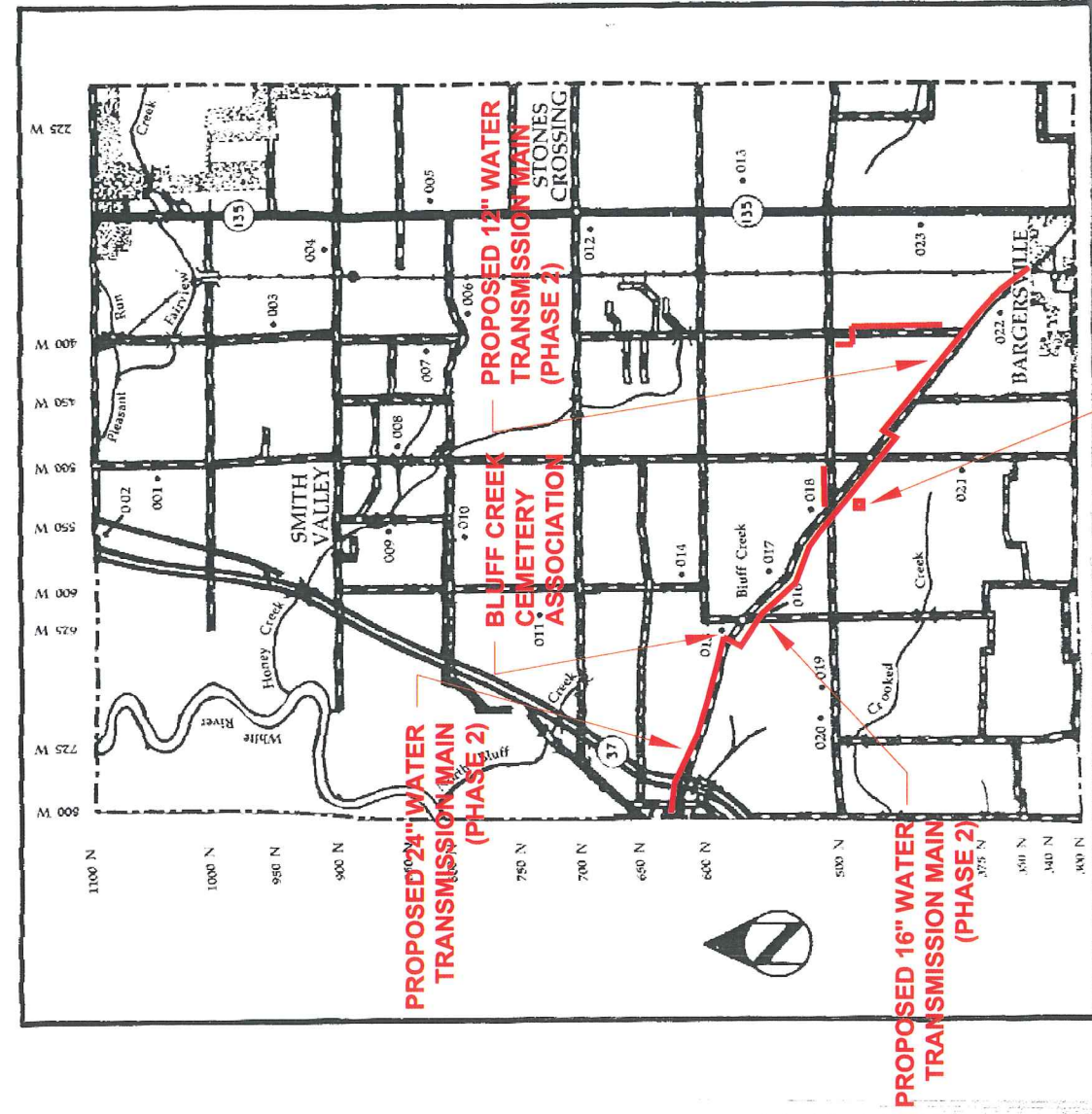
Despite the township's early settlement, few houses remain from its formative years. The house on the Waverly Road (30003) is the township's only example of the I-house. The house on 800 West (30005) is a simple example of the double-pen. Both houses were built during the period 1840-1850.

The Reuben Aldrich Sr. House (30009) is the township's most prominent residence. This massive brick Italianate style house was completed in 1869.

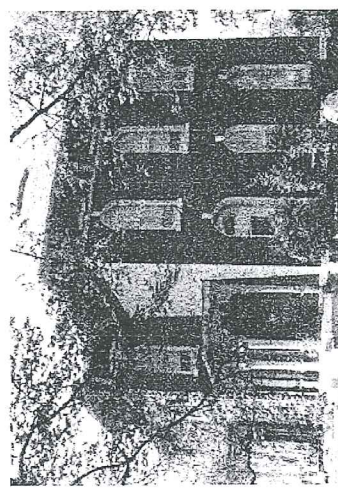


# White River Township (10001-023)

Figure 5.02-3  
Revised 7-21-11



| No. | Rtg. | Description   |
|-----|------|---|
| 001 | C    | Mt. Pleasant Cemetery, 500 W, 1865; present Exploration/Settlement (031)  |
| 002 | O    | Stutton House, State Road 37; Italianate, 1875; Architecture (031)  |
| 003 | C    | Messersmith Cemetery, 400 W, 1890; 1900; Exploration/Settlement (031)   |
| 004 | N    | House, 900 N; Greek Revival/Italianate, c.1865; Architecture (031)  |
| 005 | C    | Gas Station, State Road 135; Twentieth Century Functional, c.1930; Architecture, Commerce, Transportation (031) |



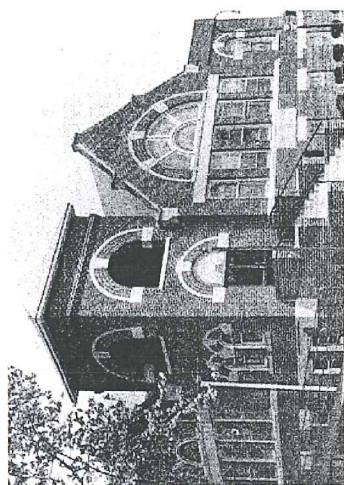
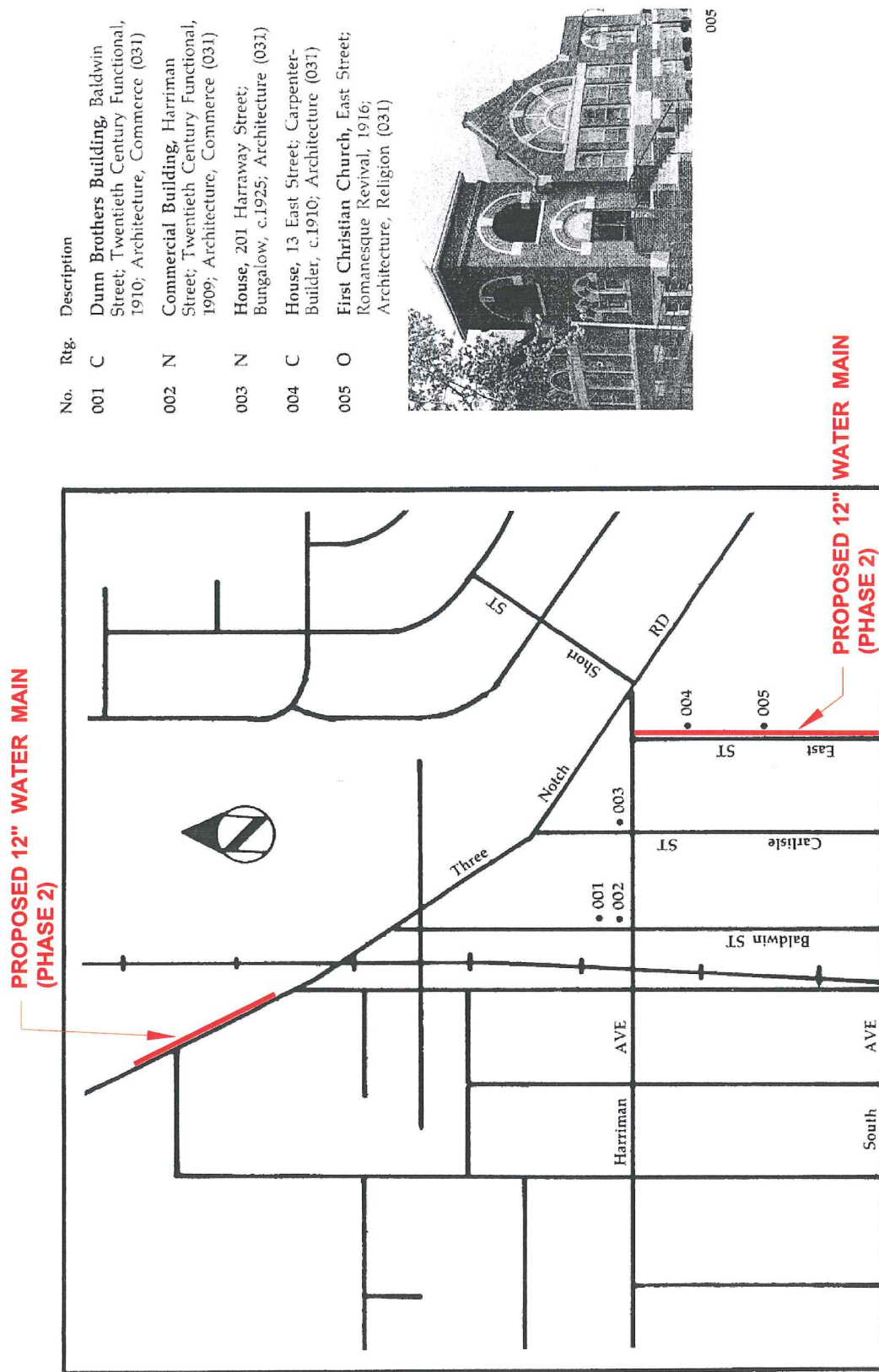
|     |   |   |
|-----|---|---|
| 006 | N | House, 800 N; Carpenter-Builders, c.1900; Architecture (031)                    |
| 007 | O | House, 450 W; Greek Revival, c.1865; Architecture (031)                         |
| 008 | C | House, 500 W; Bungalow, c.1930; Architecture (032)                              |
| 009 | C | Iron Bridge, 550 W; Pratt Pony Truss, c.1900; Engineering, Transportation (031) |
| 010 | C | Calvert House, 800 N; Carpenter-Builders, 1900; Architecture (031)              |

Figure 4b: from Johnson County Interim Report  
Indiana Historic Sites and Structures Inventory



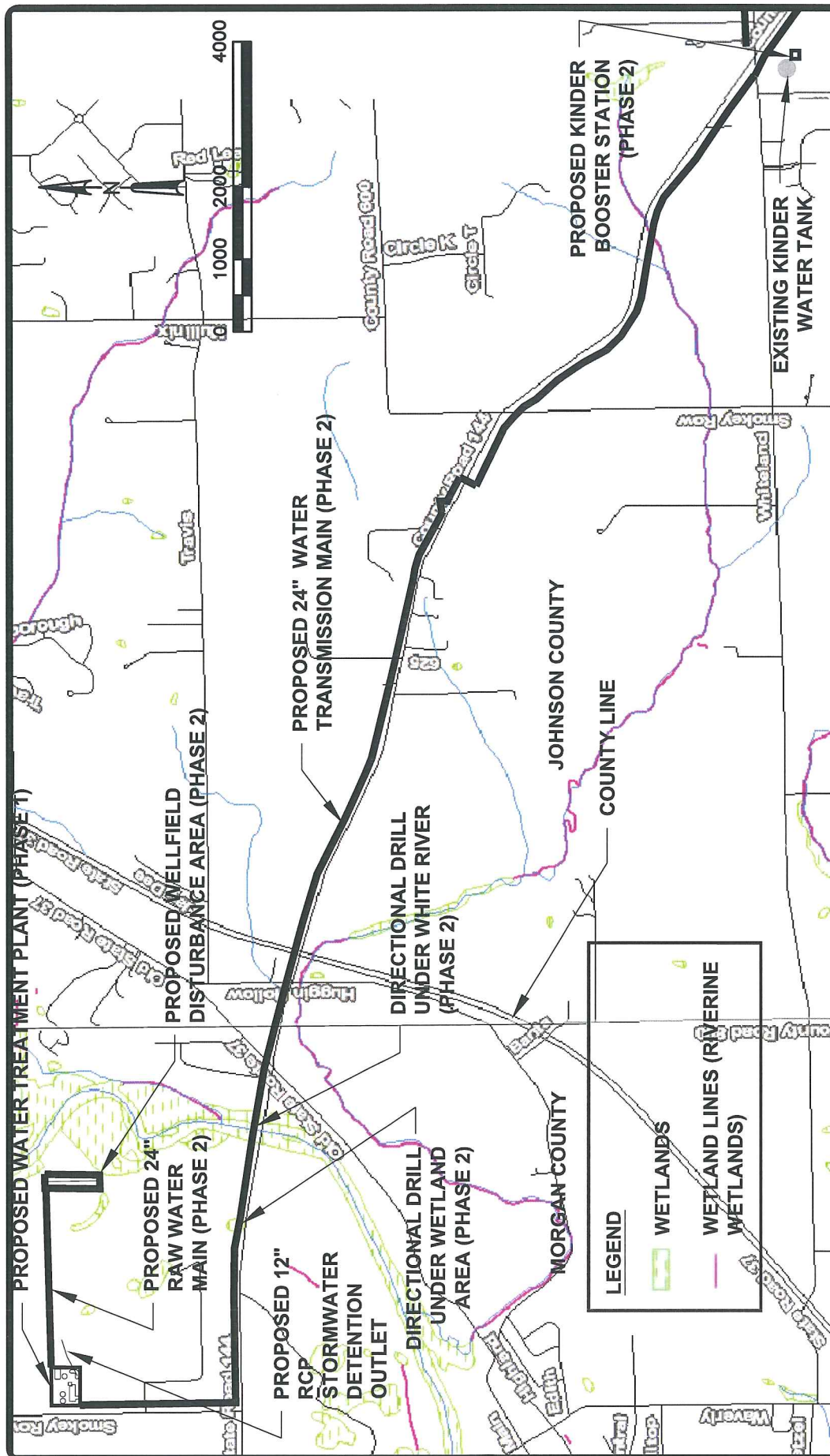
# Bargersville Scattered Sites (11001-005)

Figure 5.02-4  
Revised 7-21-11



005

Figure 4c: from Johnson County Interim Report  
Indiana Historic Sites and Structures Inventory



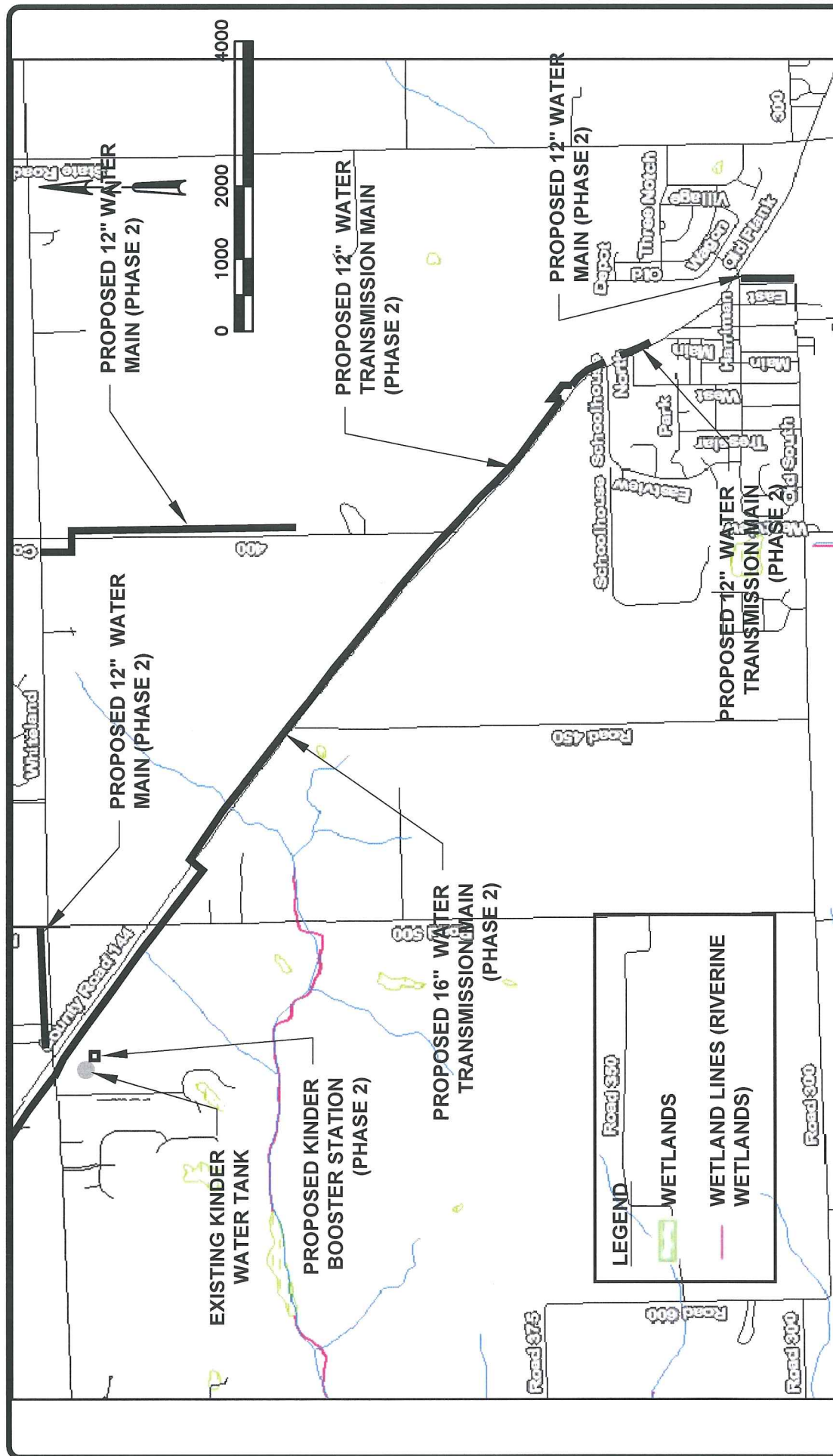
**Figure 5a**

**WETLANDS MAP (REVISED 7-21-11)**  
**PHASE 2 - SYSTEM IMPROVEMENTS**

**BARGERSVILLE WATER PLANT AND SYSTEM IMPROVEMENTS**  
**TOWN OF BARGERSVILLE**  
**JOHNSON COUNTY, IN**



5.03-1  
4005-004



**STRAND**  
ASSOCIATES, INC.®  
ENGINEERS

5.03-2  
4005-004

Nov 12, 11

**WETLANDS MAP**  
**PHASE 2 - SYSTEM IMPROVEMENTS**  
**WATER TREATMENT PLANT AND SYSTEM IMPROVEMENTS**  
**TOWN OF BARGERSVILLE**  
**JOHNSON COUNTY, IN**

**BARGERSVILLE WATER TREATMENT PLANT AND SYSTEM IMPROVEMENTS**

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